



ESG-CET Gateway Development Status Update

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Acknowledgments

The Gateway Team :

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in close collaboration with all of ESG-CET
and funding/requirements from

ESG, CDP, NARCCAP, CADIS, ESC, TIGGE, VSTO, GIS, WMO...

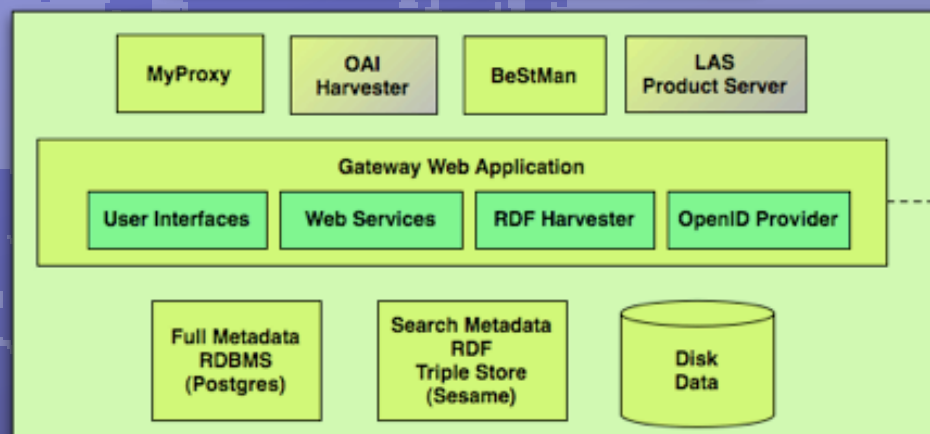
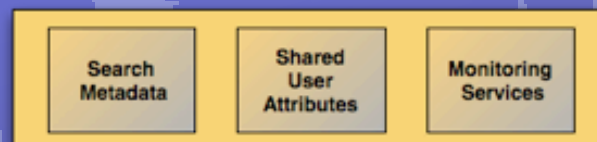
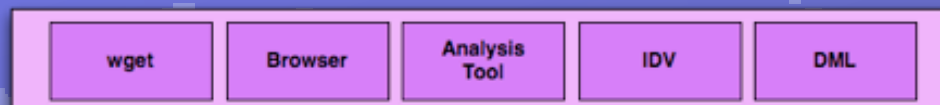
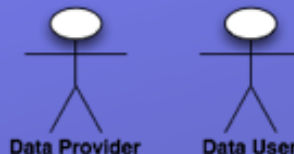
Earth System Grid

Tier 0: Clients

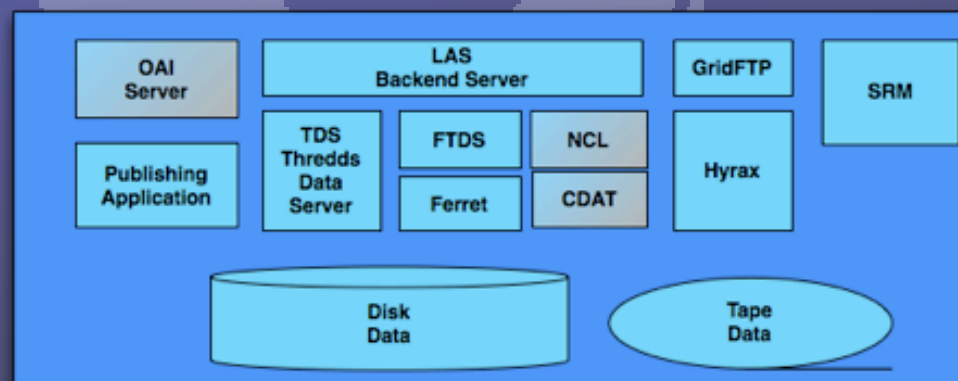
Tier 1: Global Services

Tier 2: Gateway

Tier 3: Data Node



User Registration
User & Group Management
Authentication
Authorization
Data Browsing
Data Download UI
Data Annotation & Tagging
Data Search
Model Metadata Traceback
Data Transfer & Monitoring UI
Data Products UI (viz, subsetting...)





Progress Since Alpha Prototype (Jan '08)

- Expanded Metadata Model (~100 tables)
 - scientific metadata, access control, user workspace, metrics
 - Use of UUID (Universal Unique IDentifiers) for all objects
- Upgraded Data Browsing interface
 - Prototype support for annotations and tagging
- Upgraded Semantic Search
 - Prototype integration with ESC object model, interfaces
 - Dynamic display of facets depending on product, selection
 - New search facets (data product, discipline, forcing)



Progress Since Alpha Prototype (Jan '08)

- Prototype User Workspace
 - Data cart, data transfer requests
- Expanded Access Control model
 - New objects: principals, operations
 - Web Services for remote authorization and token validation
 - Integration with MyProxy certificate generation (w/ ANL)
- OpenID support (w/ ANL)
 - Gateway as OpenID consumer (w/ Acegi integration)
 - Gateway as OpenID provider



Progress Since Alpha Prototype (Jan '08)

- Thredds Data Server integration
 - Removed CAS authentication
 - Use authorization tokens for browser & wget access
- Upgraded LAS integration (w/ PMEL)
- Branding
 - Per Gateway and per project, dataset
- ESG users migration
- Prototyped OAI to exchange THREDDS catalog
- ... and a few major re-factorings ...



Future Development : One Gateway Only

Absolutely Critical

- Metrics (logging and reporting)
- Deep storage retrieval (integration with BeSTMan) - w/ LBNL
 - Support for DML
- Integration with Data Node Publishing Application - w/ PCMDI
- Catalogs Browsing: finalize
- Semantic Data Search: finalize (w/ ESC)
 - Finalize search facets, metadata
 - Automatic RDF harvesting from RDB



Future Development : One Gateway Only

Absolutely Critical

- Authorization: enforce at view and service layers
- Performance and scalability analysis
- Expand test coverage



Future Development : One Gateway Only

Optional but Desirable

- Data Search
 - Full integration with ESC
 - Switch to Sesame 2, SPARQL
- LAS integration
 - Sub-setting interface
 - More data products

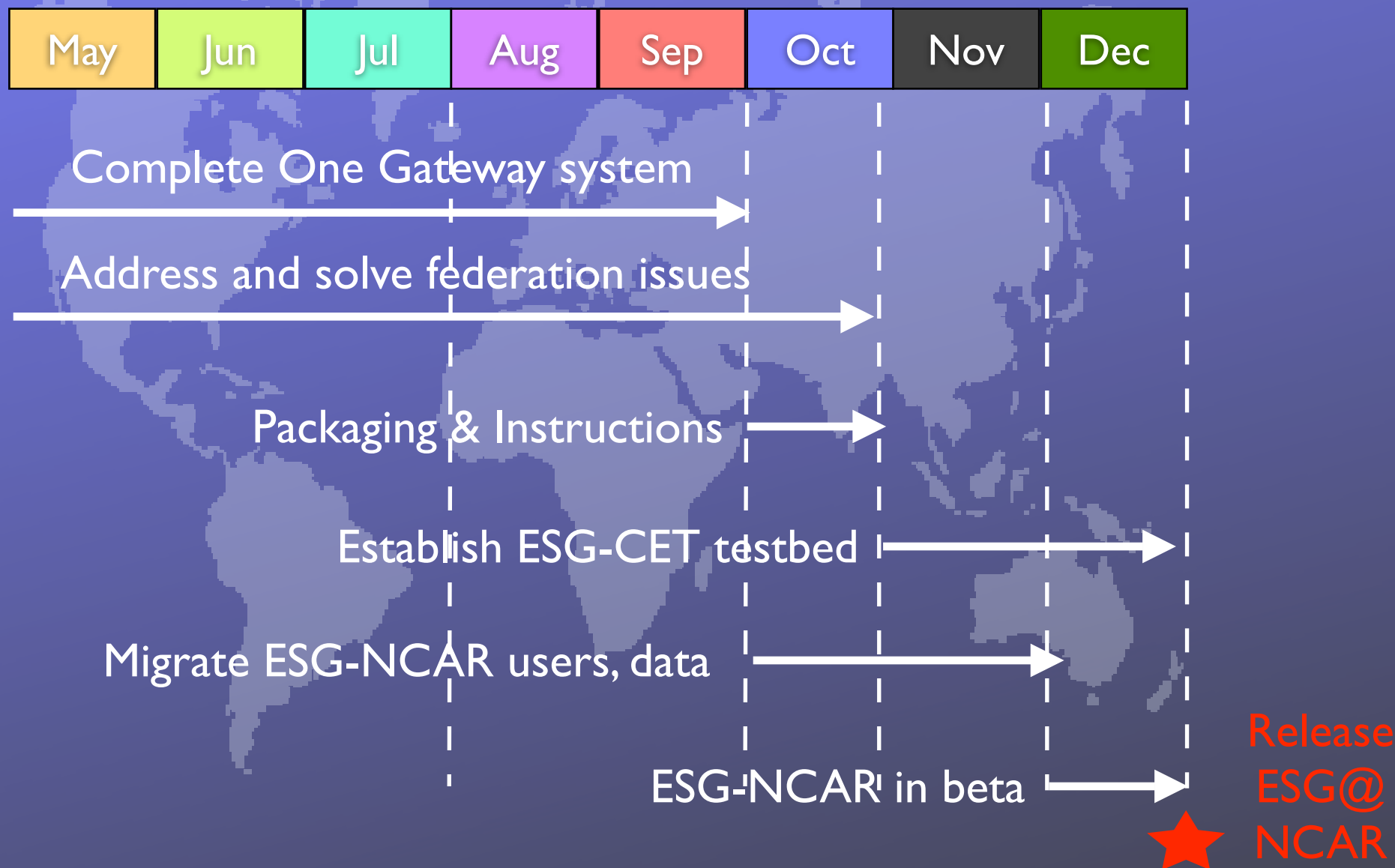


Future Development : Gateways Federation

- Security (w/ ANL)
 - Exchange user attributes
 - Federated authorization
- Data Search
 - Exchange search metadata, or shared search repository
- Branding and customization ?
- Monitoring
- Packaging and instructions



2008 Timeline





ESG-CET Discussion Topics

- Data Search
 - Finalize search facets
 - Establish metadata collection process
 - How to exchange metadata among gateways (OAI ? RLS Bloom Filters ? - must interface with Sesame)
- Data Publishing
 - Review interaction between Publishing App, LAS and Gateway (push, pull, OAI...)
- Metrics
 - Instrument Data Nodes to report metrics
 - Metrics collection box on Data Node ?



ESG-CET Discussion Topics

- Registration
 - Decide on accepted OpenID providers
 - Finalize user registration workflow
- Security
 - Mechanism for client - Data Node App interaction
 - Integration of MyProxy with OpenID ?
 - Use of OpenIDs with TDS, OpenDAP ?
 - Finalize authorization model (distributed?)